UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCrory, Chief

MONTHLY NEWS LETTER

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Failure in some cases to report receipt of material and equipment purchased has caused unnecessary correspondence, delay in settling our obligations, and sometimes loss of discount. Under the system now in vogue, a copy of the approved requisition as submitted is returned to the man who is to receive the purchase. When the material is received this requisition should be initialed in the column "Initialed by" and immediately returned to the Washington office. The date of receipt should also be indicated. In the event that a copy of the approved requisition is not at hand when the material arrives, delivery should immediately be reported by letter.

Attention of all is called to the fact that an authorization to employ temporary assistants is construed to authorize such employment for not to exceed 30 days. An appointment for a period to exceed 30 days must be authorized by the Civil Service Commission. In any case where it seems advisable, from the standpoint of the Department's work, to employ a temporary assistant for more than 30 consecutive working days the matter should be taken up with the Washington office in ample time so that the necessary temporary appointment can be made under Civil Service regulations. In making such an application, full explanation of the necessity should be given.

ALL EMPLOYEES HAVING CUSTODY OF GOVERNMENT-OWNED AUTOMOBILES ARE URGED TO ASSURE THEMSELVES THAT THEIR CARS ARE AT ALL TIMES IN CONDITION FOR SAFE OPERATION. ESPECIAL ATTENTION SHOULD BE GIVEN TO THE HEADLIGHTS AND BRAKES.

DURING THE MONTH MR. MCCRORY VISITED THE TERRITORY COVERED BY THE BERKELEY OFFICE AND WENT OVER THE PROJECTS OF VARIOUS OF THE FIELD MEN. AT BOISE, IDAHO, HE WENT OVER THE CALDWELL ALKALI RECLAMATION TRACT WITH J. C. MARR, AND HE ALSO VISITED THE VALE, OR WARMSPRINGS, BAKER, TUMALO, (DESCHUTES) AND GRANTS PASS IRRIGATION DISTRICTS, ALL IN OREGON. IN CALIFORNIA MR. MCCRORY WENT OVER THE SACRAMENTO-SAN JOAQUIN DELTA WORK WITH THE PROJECT LEADERS AND IN THE SOUTHERN PART OF THE STATE HE VISITED WITH MR. MCLAUGHLIN, THE COOPERATIVE WORK BEING CONDUCTED BY H.F. BLANEY AND C. A. TAYLOR. ENROUTE TO WASHINGTON, D.C., MR. MCCRORY INSPECTED THE WORK BEING DONE BY W. M. HURST AND W. R. HUMPHRIES IN NORTH DAKOTA, IN CONNECTION WITH THE COMBINE-HARVESTER STUDY.

MR. MCLAUGHLIN MADE A FIELD TRIP OF ABOUT TWO WEEKS INTO THE OREGON TERRITORY TO OBTAIN FIRST-HAND INFORMATION REGARDING ECONOMIC AND AGRICULTURAL CONDITIONS ON SEVERAL OF THE IRRIGATION PROJECTS OF THAT STATE WHICH ARE HAVING DIFFICULTY MEETING THEIR FINANCIAL OBLIGATIONS.

A REPORT ON THE AGRICULTURAL AND ECONOMIC PHASES OF EAGLE POINT IRRIGATION DISTRICT, OREGON, HAS BEEN PREPARED BY P. A. EWING, W.W.MCLAUGHLIN, AND W. L. POWERS. THIS DISTRICT IS ONE OF 19 ON BONDS OF WHICH THE STATE ADVANCED INTEREST FOR AN INITIAL 5-YEAR PERIOD (RECENTLY EXPIRED) IN THE EXPECTATION THAT DURING THAT TIME THE LANDS WOULD BE SETTLED AND BROUGHT TO THE PRODUCTIVE STATUS WHICH WOULD SUPPORT THE BONDED INDEBTEDNESS. THE EFFORT OF THE AUTHORS OF THE REPORT HAS BEEN TO DEVISE A METHOD BY WHICH THE OBLIGATIONS OF THE DISTRICT COULD BE REFUNDED SO AS TO PROTECT THE INTERESTS OF BOTH CREDITORS AND FARMERS, MINIMIZE NECESSARY SACRIFICES BY BOTH, AND ENCOURAGE THE DEVELOPMENT OF THE AREAS STILL UNSETTLED. THE COMPLICATIONS AT EAGLE POINT ARE FEWER AND SIMPLER THAN ON MOST OF THE OTHER PROJECTS REPORTED UPON BY THESE AUTHORS DURING THE PAST YEAR, BUT THEIR SUGGESTED SOLUTION OF THE FINANCIAL TROUBLES THERE IS EXPECTED TO HAVE APPLICATION ELSEWHERE. THE PRESENT IRRIGATION DISTRICT LAW IS CRITICIZED AS BEING TOO INELASTIC WHERE REORGANIZATIONS OF PARTLY DEVELOPED ENTERPRISES ARE NECESSARY. THUS ALTHOUGH A RECENT AMENDMENT PERMITS DISTRIBUTION OF BONDED INDEBTEDNESS ON THE BASIS OF THE PRODUCTIVE CAPACITY OF INDIVIDUAL TRACTS INSTEAD OF THE PRESENT FLAT PER ACRE BASIS, IT DOES NOT ALLOW CHANGE IN THE BASIS OF YEARLY ASSESSMENTS, ONCE PRODUCTIVE CAPACITY HAS BEEN SET. LIKEWISE IT REQUIRES THAT ASSESSMENTS SHALL BE SUCH AS TO PERMIT THE DISTRICT TO MEET PRINCIPAL AND INTEREST REQUIREMENTS IN APPROXIMATELY EQUAL AMOUNTS, A DEFERMENT OF PRINCIPAL MATURITIES NOT BEING POSSIBLE. ACCORDINGLY THE EAGLE POINT STUDY WAS DIRECTED FIRST OF ALL TO THE ASCERTAINMENT OF THE MAXIMUM ASSESSMENT THE LANDS OF THE ENTIRE DISTRICT COULD STAND, ONLY HALF OF ITS 6,000 ACRES NOW BEING IN PRODUCTION. THE PRESENT TOTAL ASSESSMENT FOR BOND AND OPERATION REQUIREMENTS IS $10.50, BUT DELINQUENCIES ARE NUMEROUS, AND $7 SEEMS TO BE ALL THAT CAN BE DEPENDED UPON. THE REFUNDING RECOMMENDED IS ON A 4 PER CENT BASIS, INSTEAD OF THE

PRESENT 6 PER CENT, AND THE REFUNDING BONDS ARE TO BE VOTED AT ONCE BUT SPLIT INTO THREE ISSUES, HALF OF THE TOTAL TO BE EFFECTIVE FORTHWITH, A FOURTH, FIVE YEARS HENCE WHEN 3/4 THE ENTIRE ACREAGE IS EXPECTED TO BE IN CROP; AND THE REMAINING FOURTH 10 YEARS FROM NOW WHEN THE WHOLE AREA SHOULD BE AT WORK. MEANWHILE WATER SERVICE IS TO BE PUT ON A TOLLS BASIS, TO CONFINE THE SUPPORT OF THE IRRIGATION SYSTEM TO THE LANDS USING THE WATER. THIS PLAN DOES NOT RELIEVE THE UNPRODUCTIVE SECTIONS OF YEARLY BOND ASSESSMENTS, BUT REDUCES THEM TO A POINT WHICH SHOULD NOT PREVENT RECLAMATION OF THE LANDS IF IT IS UNDERTAKEN IN ACCORDANCE WITH THE RECOMMENDED PROGRAM. THE AUTHORS OF THE EAGLE POINT REPORT ARE NOW AT WORK ON A SIMILAR REPORT COVERING THE TUMALO PROJECT, NEAR BEND, AND WILL INVESTIGATE SEVERAL OTHER DISTRICTS LATER IN THE YEAR.

MR. MARR REPORTS THAT ON APRIL 4, TWENTY VARIETIES OF SHADE AND FOREST TREES WERE PLANTED AT THE CALDWELL, IDAHO, ALKALI EXPERIMENT TRACT. SIX OF EACH VARIETY WERE PLANTED IN EXTREMELY ALKALINE SOIL, AND THREE IN MODERATELY ALKALINE SOIL. THE FORMER WAS CONSIDERED AS THE ALKALI PLANTING AND THE LATTER THE CHECK PLANTING. THE ALKALI PLANTING WAS VARIED BY BACKFILLING HALF OF THE TREES WITH THE ORIGINAL SOIL AND THE OTHER HALF WITH COARSE SAND. CHEMICAL ANALYSES OF THE SOILS IN THESE TWO PLOTS HAVE NOT YET BEEN MADE, BUT FROM FIELD DETERMINATIONS AND COMPARISON WITH ADJOINING AREAS ON WHICH LABORATORY RESULTS ARE AVAILABLE IT IS APPARENT THAT FOR THE ALKALI PLANTING THE pH VALUE IS CLOSELY 10.4, AND FOR THE CHECK PLANTING IT IS ABOUT 9.0. ON JULY 6 IT WAS FOUND THAT ONLY 5 TREES WERE ALIVE OF THOSE BACKFILLED WITH THE ORIGINAL SOIL AS COMPARED WITH 36 ON THOSE BACKFILLED WITH COARSE SAND.

EFFECTIVE JULY 2, L. W. WINSOR WAS TAKEN OVER BY THE BUREAU OF BIOLOGICAL SURVEY AS ENGINEER IN CHARGE OF DETAILED STUDIES OF THE ENGINEERING PHASES OF THE WATER-FOWL REFUGE OF THE BEAR RIVER BAY, UTAH. AFTER THE COMPLETION OF THESE STUDIES, AND AFTER THE PROJECT HAS BEEN ACCEPTED BY THE UTAH LEGISLATURE, CONSTRUCTION OF DYKES, SPILLWAYS, AND APPURTENANT STRUCTURES WILL BE STARTED AND COMPLETED UNDER MR. WINSOR'S DIRECTION.

THE FOLLOWING REPORTS HAVE BEEN RECEIVED AT THE BERKELEY OFFICE:
"IRRIGATION NEEDS AND POSSIBILITIES OF THE GREAT PLAINS" BY A. L. FELLOWS.
"PROGRESS REPORT ON ALKALI LAND RECLAMATION" BY J. C. MARR, R. E. NEIDIG, M. R. LEWIS, H. P. MAGNUSON, AND G. R. MCDOLE.
"REPORT ON KLAMATH MARSH - KLAMATH INDIAN RESERVATION" BY L. T. JESSUP.
"PRELIMINARY PROGRESS REPORT ON RETURN FLOW ON THE JOHN DAY RIVER" BY M. R. LEWIS.

GEORGE R. BOYD, ON AUGUST 12, PROCEEDED FROM HIS HEADQUARTERS TO MICHIGAN AND MINNESOTA FOR THE PURPOSE OF COMPLETING THE TAKING OF MOTION PICTURE EXPOSURES IN CONNECTION WITH THE NEW LANDCLEARING FILM. IN MICHIGAN MR. BOYD WILL SUPERVISE THE POISONING OF SOME TREES IN CONNECTION WITH THE TREE POISONING PROJECT AND IN MINNESOTA WILL CONFER WITH UNIVERSITY OFFICIALS WITH REFERENCE TO A COOPERATIVE LAND CLEARING PROJECT IN THAT STATE.

R. A. NORTON HAS COMPLETED A SURVEY OF THE VARIOUS SEDIMENTATION BASINS OF ILLINOIS, MISSOURI, IOWA, AND NEBRASKA, AND HAS RETURNED TO URBANA, ILLINOIS, HIS HEADQUARTERS.

F.E. Staebner recently made a survey necessary to enable him to plan a pecan-orchard irrigation system involving about 50 acres in the vicinity of Eufaula, Alabama. The matter of supplementary irrigation of pecan orchards is one that is now receiving considerable attention in the Southeastern States.

W.M. Hurst and W. R. Humphries, about August 1, proceeded to Fargo, N. Dak., to take up the season's investigation of the use of the combine-harvester in North Dakota and Minnesota. This is a cooperative project with the respective States and other Bureaus of the Department. Prior to going to Fargo, Mr. Hurst was engaged several days at Lincoln, Neb., with the experimental drying of forage crops by artificial means. This work was done in collaboration with Professor Kiesselbach of the University.

Manuscript report on "The Economical Status of Reclamation Drainage Districts in the South" has been received, giving the results of the study made in 1926 by R. D. Marsden and R. P. Teele concerning the agricultural development and financial condition of enterprises established to reclaim large tracts of swamp and overflowed land. The 58 districts studied comprise nearly 40 per cent of the area in all drainage districts in the lowlands of the lower Mississippi Valley and the coastal plain of the South Atlantic States. The improved area has increased from about 16 per cent to about 38 per cent of the total, in these districts which average about 12 years from beginning construction to 1926. Development has been largely dependent upon securing farmers from other counties and States, in which effort the Mississippi Valley enterprises have been more successful than those in the Atlantic region. Some of the enterprises that apparently were most justified by economic conditions have been embarrassed financially by inability to collect assessments against unimproved lands, while some of the highly speculative projects have been in difficulty since receipts from land sales slackened some years ago.

Two wire screened cages, each covering an acre recently were designed by T.A.H. Miller for the Bureau of Entomology's corn borer experiments. The cages are planned to be built in units of 21 foot squares, so as to be quickly erected and removed, since their function extends only over the period of the moth's flight. The framework, consisting of 4 x 4 inch posts 8 feet long and 2 x 6 inch beams and girders was fabricated in the mechanical shops, Washington, D. C., shipped by freight to Toledo and erected in June by the Toledo force under the direction of R. B. Gray on the experiment farm at Bono. Mr. Miller spent the week of August 6 to 11 at Toledo supervising the removing and storing of the copper screening. On account of the wetness of the ground and the probable damage to the corn crop in removing the framework, it was thought advisable to leave this part of the work until the conclusion of the experiment in the fall.